

REMARKS

Entry of the above amendments and reconsideration of this application are respectfully requested. Upon entry of the amendments, this application will contain claims 11-21 and 32-40 pending and under consideration. Claims 13 and 16 stand rejected under 35 U.S.C. § 112, second paragraph. Claims 11-21 and 32-34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 6,224,836 (Moisan) in view of U.S. 6,258,329 (Mutterer). For the reasons discussed below it is believed that each of these rejections is overcome and should be withdrawn. Accordingly, allowance of the application is solicited.

The above-noted rejection of claims 13 and 16 under 35 U.S.C. § 112, second paragraph, is based upon indefiniteness. As to claim 13, the Examiner suggested the use of conventional Markush group language. Claim 13 has been so amended. In respect of claim 16, the Examiner noted that the phrase "the precursor material" lacked antecedent basis in the prior form of the claim. In response, claim 16 has been amended to insert the necessary antecedent basis. Withdrawal of this rejection is solicited.

Beginning at page 4 of the Office Action, a rejection of claims 11-21 under 35 U.S.C. § 103(a) is made. This rejection is based upon the combination of Moisan in view of Mutterer. This rejection is traversed because these references, even if combinable, fail to suggest the elements set forth in claims 11-21.

In making this rejection, the Office Action discusses various elements disclosed in Moisan and asserts that "the difference between Moisan and the above claims are Moisan is silent on the use of metal enclosure as the microwave reflecting enclosure and the use of a feed-back control system." The Office Action then finds these two elements in Mutterer and alleges that their combination with Moisan to reach the claimed invention would have been obvious. In particular, as to the claimed control system, the Action notes that Mutterer teaches the use of a control system operatively associated with sensors at column 4, lines 35-57. On this basis the Office Action concludes that "the

subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Moisan's teachings as suggested by Mutterer because "the provision of mechanical or automatic means to replace manual activity" has been held to be obvious, *In re: Venner* 120 USPQ 192". This line of analysis is traversed as the references fail to teach the elements of the claimed invention.

Claims 11-21 are directed to "a chemical reactor system for generation of high purity gas". In addition to the other elements claimed in the combination, the system includes "a gas concentration sensor for sensing gas concentration in the generated gas, and a feed-back control system to control gas generation rate in said enclosure." Neither of the references teaches either of these elements in any respect. It is therefore submitted that even if combined, the references fail to render the present claims obvious.

Specifically as to Moisan, this patent relates to purifying gaseous effluents, and not to the generation of high purity gases such as phosphine. Moisan describes certain steps conducted in the purification of the gas, but is completely devoid of any teaching with respect to either a sensor to sense gas concentration, or a feed-back control system adapted to control a gas generation rate as claimed. Turning to the teachings of Mutterer, one finds therein described a system for carrying out microwave assisted chemistry. As examples of such chemistry, Mutterer discloses the evaporation of liquid samples to a smaller volume using microwaves. In so doing, Mutterer describes drawing the vapors off to rid them from the reaction system. In no respect does Mutterer disclose a system for generating high purity gas, any sensor for sensing gas concentration, or any system for feed-back control of a gas generation rate. In column 4, Mutterer discloses the use temperature sensors or electrochemical detectors "for monitoring the conditions of the vessel 16 and the reaction therein." There is absolutely no disclosure of the desire or need to, or any means for, sensing a gas concentration in generated gas, or control of a gas generation rate. This is consistent with the fact that Mutterer is concerned with a desired set

of chemistry occurring in its reaction pot, and not in the generation of high purity gases as in the claimed system.

Moreover, the Office Action asserts that the motivation to modify Moisan as suggested by Mutterer stems from "the provision of mechanical or automatic means to replace manual activity". However, it is submitted that no such manual activity is even present in the teachings of Moisan, as Moisan does not sense gas concentration, or provide feed-back control of a gas generation rate. Thus, there is no corresponding manual activity in Moisan to automate.

As further comments, the Action asserts that the subject of claim 16 reciting the precursor material cannot give patentable weight to the claims. However, if the precursor material is positively recited, it becomes a positive element of the system which indeed must be considered in weighing the patentability of the claims. The Action also comments upon claim 17 and indicates that the selection of any of known equivalent vapor removal devices would be within the level of ordinary skill in the art. However, there is no showing or assertion in the Action to show the equivalence of the claimed vapor removal devices with any disclosed in the references. And finally, as to claims 20 and 21, the Action asserts that the manner in which an apparatus operates is not germane to the issue of patentability of the apparatus itself. However, it is believed that this comment is misplaced. If a claim defines an apparatus as operable to achieve a certain function, that is a positive limitation of the apparatus, describing one of its elements. It is submitted that each such element set forth in the claims must be considered when weighing patentability.

For all of the foregoing reasons, withdrawal of the rejection of claims 11-21 is solicited.

Claims 32-34 also stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Moisan in view of Mutterer. In making this rejection, the Action asserts that the claims differ from the combination of references only in the intended use of the system. However, as noted above, neither of these references teaches a gas concentration sensor for sensing gas concentration in

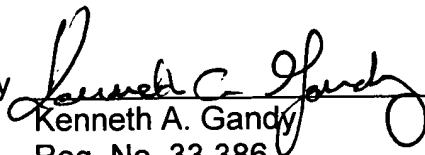
the generated gas. Accordingly, even if one assumes that these references are combinable, they do not teach or suggest the invention set forth in claims 32-34. Withdrawal of the subject rejection is therefore requested.

New claims 35-40 have been added, all ultimately dependent upon claim 32. These claims are thus patentable over the applied references for at least the above-discussed reasons concerning claims 32-34. Support for these claims is found as follows:

Claim 35 Page 8, lines 21-28
Claim 36 Page 8, lines 21-28
Claim 37 Page 10, lines 27-31
Claim 38 Page 11, lines 29-31
Claim 39 Page 10, line 31
Claim 40 Page 10, lines 23-26

In view of the foregoing, it is believed that this application is in condition for allowance containing claims 11-21 and 32-40. Prompt action to that end is solicited. The Examiner is invited to contact the undersigned attorney by telephone if there are any questions about this submission or other matters that may be handled in that fashion to expedite the allowance of this application.

Respectfully submitted,

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